Johnson 1995f

STREAM: Sawmill Creek

DRAINAGE: West Fork Jarbidge River

WATER CODE: 1335

GAWS COMPUTER NO.: 170501,05,155,035,065

SURVEY DATE: August 18, 1992

REPORT DATE: May 12, 1995

WRITTEN BY: Gary Lee Johnson

SURVEY METHODOLOGY: The United States Forest Service Region 4, Level III Fisheries Habitat Survey Method (March, 1989) was utilized at two Sample Sites (SS's). The first 100 feet at SS-1 was sampled for fish using a one pass effort with a Dirigo backpack electroshocker. A ¼-inch mesh block net was positioned at the downstream end of the electrofished area to prevent fish loss. An ocular assessment of fish life was made at SS-2.

Aquatic macroinvertebrate type and relative abundance was assessed after conducting a random inspection of substrate particles at each sample site. The first of five stream habitat evaluation transects began 100 feet above the start of the fish sample area. Additional transects were placed at 50 foot intervals. Stream discharge was calculated from floating object time trials and water width and depth measurements over a relatively uniform length of stream. Both air and water temperatures were recorded at each site with the use of a hand held thermometer. Basic water quality parameters were measured using a HACH KIT.

LAND OWNERSHIP AND ACCESS: Sawmill Creek lies wholly within the Humboldt National Forest and is public land administered by the Jarbidge District. From of Jarbidge, Nevada, a maintained road follows the West Fork of the Jarbidge River south about 4.0 miles to end at a Jarbidge Wilderness trailhead. The Wilderness trail crosses Sawmill Creek 1.4 miles south of the trailhead.

WATERSHED DESCRIPTION: Sawmill Creek is approximately 1.1 miles long and is situated in a northerly facing, 524 acre mountainous drainage. Drainage elevation ranges from the 9555 foot Fox Creek Peak to 7400 feet at the confluence of the river. There is one side tributary located a ¼-mile up from the river. The drainage vegetation community consists of mountain shrub, mountain mahogany, aspen and fir types with a grass and forb understory. The valley bottom width was 492 feet near the river at SS-1 and only 13 feet at SS-2. The valley sideslopes were to steep once above SS-1. The geological parent material in the basin consists of volcanic rock (Million-Scale Geologic Map of Nevada - 1977).

WATER STATUS: Stream discharge ranged from 0.13 cfs at SS-1 to 0.25 cfs at SS-2. Mean water width across habitat transects was 5.0 feet. Mean and maximum recorded stream depth at transects were 0.12 ft. and 0.23 ft., respectively. The stream at time of sampling was at low flow stage, fast, and clear. The side tributary located about ¼-mile above the mouth of the stream was flowing at the time of survey. Stream temperatures ranged from 55°F @ 1040 @ SS-1 to 53°F @ 1426 @ SS-2. Water chemical properties indicate conditions suitable for fish life (see below).

Time	1040 hrs
pH	7.0
Alkalinity	34.2 ppm
Hardness	17.1 ppm
D.O.	8.0 ppm
CO2	10.0 ppm

STREAM HABITAT CONDITION INDEX (HCI): The stream habitat condition Index (HCI) ratings were 55.0 and 67.8 percent of optimum at SS-1 and SS-2, respectively. Both the HCI ratings were indicative of "poor" to "fair" trout stream conditions. Individual "poor" rated HCI parameters included percent optimum pool structure and bank cover percent of optimum at both SS's. Percent of optimum pool measure at SS-1 was also rated "poor". Ocular assessment of pool measure and pool quality in the fish sample area at SS-1 indicated better conditions: 80% of optimum pool measure and 67.5% of optimum pool quality. The ocular estimates at SS-2 were both 60% of optimum pool measure and pool quality.

STREAM CHANNEL TYPE AND STABILITY: Using Rosgen's Stream Classification Guide, the stream resembled an A3 type channel. Stream gradient ranged from 12% at SS-1 to 24% at SS-2. The stream stability rating was classified as "fair" at both SS's with an average score of 85. There was no apparent damage due to ungulate grazing. There was a moderate frequency of medium to large organic debris in the channel at SS-2.

RIPARIAN DESCRIPTION: Dominant riparian overstory at SS-1 was willow, Salix drummondiana whereas, alder was codominant with fir trees at SS-2. Fir and grasses and forbs were common to both areas. Riparian communities both rated in "good" condition. Streamside vegetation provided an average stream canopy of 45%. Riparian width ranged from 17 feet at SS-1 to 13 feet at SS-2.

HABITAT VULNERABILITY: Habitat vulnerability to management activities rated as "low" for this stream. Streambank sensitivity as determined from the combined ratings for upper bank vegetative protection and lower bank rock content was 15 and 10 for SS-1 and SS-2, respectively. A combined score of >13 indicates that one

season of moderate livestock activity can result in damaged streambanks. No livestock grazing is allowed in the upper portion of the West Fork of the Jarbidge River drainage. The right side slope (looking downstream) above SS-2 appeared somewhat unstable due to areas of bare soil and rock on an 84% slope.

AQUATIC BIOTA: No fish were captured or seen within the surveyed portions of stream. A boulder barrier/obstacle to upstream fish movement was noted just above the SS-1 fish sample area. The section of stream electrofished appeared suitable for trout occupancy. Major barriers were present above and below SS-2. Spot shocking in the river just above the confluence of Sawmill Creek resulted in finding bull trout.

Three species of mayflies were common and two species of caddisfly larvae were occasionally seen at SS-1. Other aquatic organisms noted included; planaria (common), and a stonefly larvae (rare). Aquatic invertebrates at SS-2 only included two species of mayflies (common) and an abundant supply of planaria.

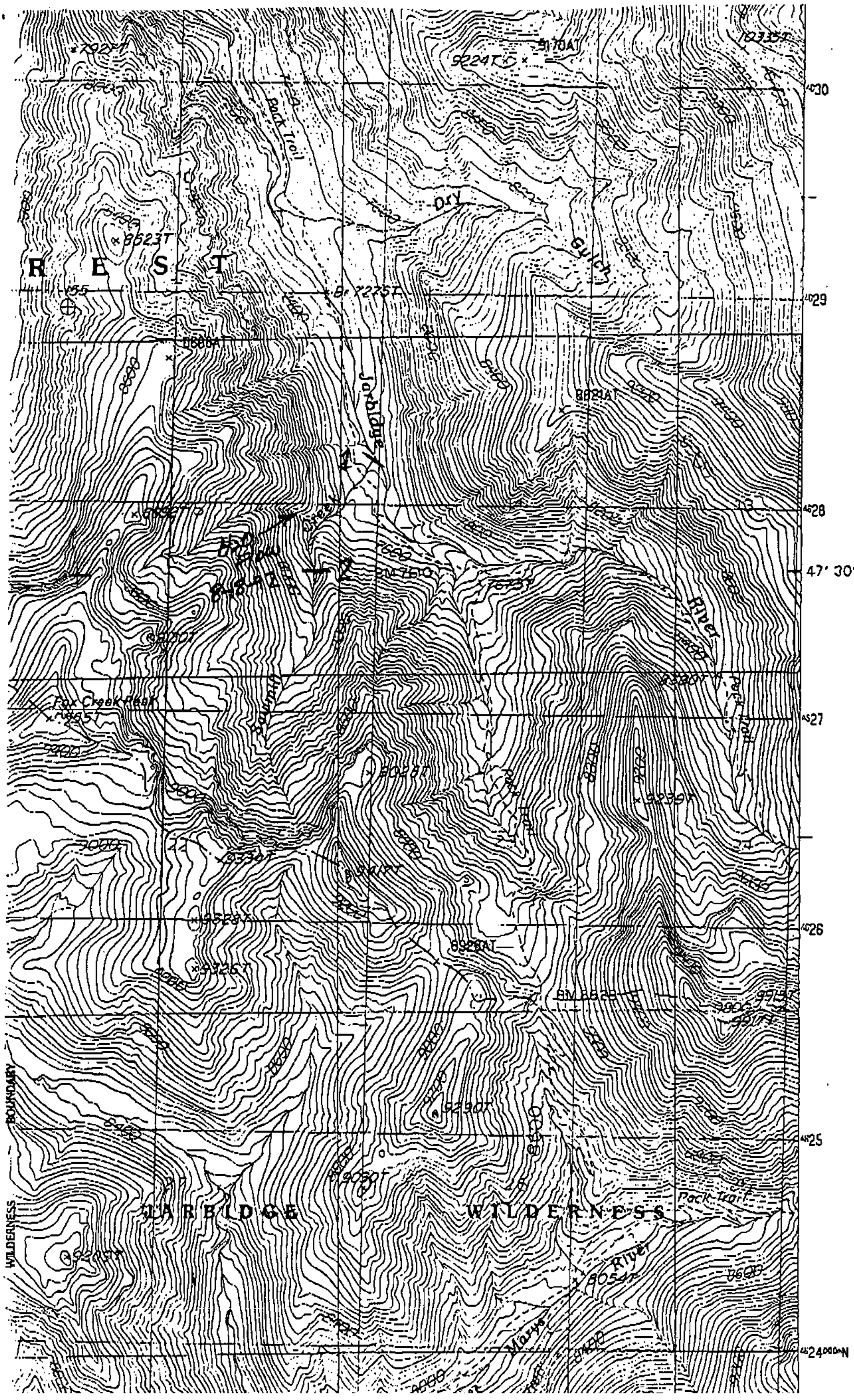
PREVIOUS FISH SURVEYS: The 1954 Nevada State Fish and Game survey of the West Fork of the Jarbidge River included one fish population sample station located at the old road crossing which is now the trail near the river. Three juvenile rainbow/redband trout were electroshocked within a 100 foot sample area.

BEAVER STATUS: No beaver activity was noted along the surveyed portion of Sawmill Creek. The steep stream gradient and narrow valley bottom width would not make for suitable beaver occupancy. Willow was only present at SS-1 and aspen was not in great supply.

STREAM'S IMPORTANCE: Sawmill Creek once supported a small native population rainbow/redband trout and because of its connection to the river, it still may provide habitat for the bull trout and or the rainbow/redband trout during years with normal stream flows.

ISSUES AND CONCERNS: None

RECOMMENDATION: None


R E S T
Pack Trail
Dry
Gulch
Jarbidge
Creek
River
Fox Creek Peak
JARBIDGE WILDERNESS
Pack Trail
River
Marys
WILDERNESS BOUNDARY
8623T
9224T
9170AT
8621AT
9390T
9239T
8926AT
BM 8825
8054T
47' 30"
4530
4529
4528
4527
4526
4525
4524000mN